

WHAT IS CLAIMED IS

1. A gas turbine combustor having a combustion chamber into which fuel and air are supplied, wherein the fuel and
5 the air are supplied into said combustion chamber as a plurality of coaxial jets.
2. A gas turbine combustor comprising a fuel nozzle for injecting fuel into a combustion chamber and an air hole
10 for injecting air into said combustion chamber, wherein the fuel nozzle and the air hole are disposed so that the fuel and the air are injected into said combustion chamber as a plurality of coaxial jets.
- 15 3. A gas turbine combustor comprising a fuel nozzle, an air hole and a combustion chamber, wherein fuel and air are injected into said combustion chamber as a large number of small diameter coaxial jets.
- 20 4. A gas turbine combustor according to Claim 3, wherein a fuel hole of the fuel nozzle is disposed coaxially or almost coaxially with the air hole, a fuel jet being injected toward the vicinity of the center of the air hole inlet, and a fuel jet and a circular flow of the air
25 enveloping the fuel jet being injected into the combustion chamber as a coaxial jet from an outlet of the air hole.

5. A gas turbine combustor according to Claim 4, wherein
a large number of the fuel nozzles are partitioned into
a plurality of fuel supply systems and a control system
5 is provided so as to individually control the flow rate
of each fuel according to the load on the gas turbine.

6. A gas turbine combustor according to Claim 5, wherein,
a swirling angle which provides a swirling component around
10 the axis of the combustor is given to a part of or all of
the fuel nozzles among a large number of the fuel nozzles
and corresponding air holes.

7. A gas turbine combustor according to Claim 5, wherein
15 a fuel hole of the fuel nozzle is disposed coaxially or
almost coaxially with the air hole, a fuel jet being
injected toward the vicinity of the center of the air hole
inlet, and a fuel jet and an circular flow of the air
enveloping the fuel jet being injected into the combustion
20 chamber as a coaxial jet from an outlet of the air hole,
and

a plurality of modules, each module consisting of the
fuel nozzle and the air hole, are combined to form a
combustor.

25 8. A gas turbine combustor according to any one of Claims
3 through 7, wherein a mechanism which provides each air

hole or fuel nozzle with a swirling component around each axis.

5 9. A gas turbine combustor according to Claim 3, wherein a part of or all of the fuel nozzles are double structured so that spraying of liquid fuel and gaseous fuel can be switched or combined.

10 10. A method of operating a gas turbine combustor having a combustion chamber into which fuel and air are supplied, wherein the fuel and the air are supplied into said combustion chamber as a plurality of coaxial jets.

15 11. A method of operating a gas turbine combustor having a combustion chamber into which fuel and air are supplied, wherein a plurality of fuel nozzles for injecting the fuel are provided, the fuel nozzles being partitioned into a plurality of fuel supply systems, the flow rate of each fuel being individually controlled according to the load
20 on the gas turbine, and the fuel and the air being supplied as a plurality of coaxial jets.